

## Regarding your article “The critical review of life cycle assessment studies according to ISO 14040 and 14044—origin, purpose and practical performance”, Int J Life Cycle Assess (2012) 17:1087–1093. DOI 10.1007/s11367-012-0426-7

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Dear Prof. Klöpffer,

As someone who has not been part of the group of authors of the respective International Organization of Standardization (ISO) guidelines, I appreciated the comprehensive summary of the history of the critical review in ISO and the firsthand look into other practitioners’ experiences with the review process in practice. Nevertheless, I would like to add two things to your article which are based on my own experience and the language that you find in ISO today—whether it was put there intentionally or by accident.

First, I want to address the composition of the review panel. One citation that was missing from your article is the last paragraph of ISO 14044, section 6.1, which says, “In order to decrease the likelihood of misunderstandings or negative effects on external interested parties, a panel of interested parties *shall* conduct critical reviews on life cycle assessment (LCA) studies where the results are intended to be used to support a comparative assertion intended to be disclosed to the public.” In addition, your citation of ISO 14040, section 7.3.3, is based on the 1997 version. The 2006 version now reads, “[...] Based on the goal, scope and budget available for the review, the chairperson *should* select other independent qualified reviewers.”

In my personal experience, panel reviews are usually avoided by the study commissioner unless mandated by

ISO due to the higher costs and longer duration, which means that if you are considering such a review, chances are that you are dealing with a “comparative assertion intended to be disclosed to the public” in nine out of ten cases. In these cases, staffing your review panel with a chair and two “independent qualified reviewers” and only including “interested parties” on an optional basis may be in line with the original intent of the ISO guidelines and represent the common practice in panel reviews today, but it certainly conflicts with the *shall* requirement cited above. Thus, the contradiction is not only between the heading of ISO 14040, section 7.3.3 and its contents, as pointed out by your paper; not including interested parties in such a panel review could actually be interpreted as being in direct breach of ISO requirements.

Now, please do not get me wrong. I am not promoting or supporting the inclusion of interested parties as a shall-requirement in ISO; I think, this is best left to the discretion of the panel chair depending on the nature of the study. I am just pointing out the issue and would like to urge ISO to include the discussion of this conflict in the next revision of the standards.

Second, I would like to address on the definition of the term “comparative assertion”. ISO defines comparative assertion as “environmental claim regarding the superiority or equivalence of one product versus a competing product that performs the same function” (ISO 14044, section 3.6). Yet, ISO does not define the term “competing” sufficiently, in my opinion.

I have heard the argument reiterated in your paper numerous times from people who were involved in the development of the first ISO standards: a competing product refers to a product from another company that competes with other products for market share. Hence, if I compare,

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e.g., wall panels made from steel by company X to wall panels made from aluminum by company Y and intend to publish my work, I will have to get the study reviewed by a panel. To me, this is an expression of a very simplified view of the world. Apart from the fact that both panels may actually be made and sold by the same company (or maybe two companies within the same corporation), this definition needs to be extended, in my opinion, as it means that I would not have to have my study reviewed prior to publishing it if I am comparing, e.g., different design options or predecessor/successor products which do not directly compete for market shares. This, in my view, is counterproductive, risky, and simply unacceptable for all up- and downstream actors along the different value chains (material suppliers, manufacturing equipment producers, service and maintenance providers, recycling companies, etc.). These constitute “external interested parties” that very much deserve to be protected from “misunderstandings or negative effects” as pointed out by ISO 14044, section 6.1.

Coming back to the wall panel example, if I am a company that today manufactures these from material A and I am considering switching to material B (at least partly) due

to a supposedly “improved” environmental profile of the new material *and* I plan on using that study to market the new product, which may actually entice other manufacturers to follow my example, I feel that a critical review should be just as mandatory as it affects the entire value chain even though the two “products” compared do not directly compete with each other in the “market”. Instead, it is the intermediate or raw materials or manufacturing technologies that compete *within the product development process*. Just because they are not traded at the same time on the same market, the potential misunderstandings or negative effects do not become less relevant or critical.

So while I think that the respective guidelines laid out in your paper are perfectly fine as minimum requirements, I think that 20 years into the LCA journey and considering the more and more widespread use of LCA results for product development and marketing purposes, we should aim higher than that. Again, my wish would be to put this issue high on the priority list for the next ISO revision.

Best regards,  
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